

## **Visualization of Municipalities for Domestic Preparedness**

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### **ABSTRACT**

John Hamre, Deputy Secretary of Defense, has stated “I personally believe that the next decade is a decade of homeland defense...” The definition of homeland defense includes protecting our cities, its critical infrastructure and its population; deterring and defending against domestic and foreign threats; supporting civil authorities in crisis management; training local first responders; and helping to ensure the availability, integrity, and survivability of critical assets. The U.S. Army Aviation and Missile Command, the City of Huntsville, and the University of Alabama in Huntsville have joined forces to form the North Alabama Alliance for Regional Preparedness to advance the development and application of simulation, visualization and modeling for domestic preparedness.

This paper discusses the development of a visualization methodology of a local municipality for regional preparedness. Specific topics discussed are:

- Steps in creating a 3D virtual environment
- Creation of the terrain environment
- Steps in populating the virtual environment with actual buildings
- Mapping the campus at the University of Alabama in Huntsville
- Application of visualization and simulation for community planning and beautification, infrastructure management, regional disaster planning and assessments and preparedness training
- Lessons learned and conclusions